TITLE 43: TRANSPORTATION
PART 1: TEXAS DEPARTMENT OF TRANSPORTATION
CHAPTER 21: RIGHT OF WAY
SUBCHAPTER C: UTILITY ACCOMMODATION

§21.31 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Active project - A highway project for which any phase of development has been programmed or an investigation and planning expense (IPE) authorization issued. A project is considered active until construction is completed and the project is placed under maintenance.

(2) American Association of State Highway and Transportation Officials (AASHTO) - An association of state highway and transportation officials.

(3) Clear roadside policy - A policy to increase safety, improve traffic operation, and enhance the appearance of highways by designing, constructing, and maintaining highway roadsides as wide, flat, and rounded as practical and as free as practical from physical obstructions above the ground and travelway such as trees, drainage structures, massive sign supports, utility poles, and other ground-mounted obstructions.

(4) Common carrier - A person who owns, operates, or manages a pipeline or any part of a pipeline in the State of Texas for the transportation of crude petroleum to or from the public for hire, or engages in the business of transporting crude petroleum by pipeline. A common carrier may transport oil, oil products, gas, salt brine, fuller's earth, sand, clay, liquefied minerals or other mineral solutions.

(5) Controlled access roadway - A highway on which owners or occupants of abutting lands and other persons are denied access to or from the highway except as authorized by the department.

(6) Department - The Texas Department of Transportation.

(7) Design vehicle load (HS-20) - A design load designation used for bridge design analysis representing a three-axle truck loaded with four tons on the front axle and 16 tons on each of the other two axles. The HS-20 designation is one of many established by AASHTO for use in the structural design and analysis of bridges.

(8) District engineer - The chief administrative officer in charge of one of the 25 districts of the department.

(9) Executive director - The executive director of the Texas Department of Transportation.

(10) Frontage roads - A street or road auxiliary to, and located on the side of, an expressway or freeway that segregates local traffic from high-speed through traffic and provides service to abutting property and control of access.

(11) High and low pressure gas lines - High pressure gas lines are pipelines that carry a gaseous substance and that are operated or may reasonably be expected in the future to operate at a pressure of over 60 pounds per square inch. Conversely, low pressure gas lines are those with an operating pressure not expected to exceed 60 pounds per square inch.

(12) Low volume highways and low volume farm-to-market roads - Any roadways other than controlled access highways which carry a traffic volume of 750 vehicles per day or less and upon which projected traffic volume at the design year is not anticipated to exceed 1,500 vehicles per day.

(13) Noncontrolled access roadway - A highway on which owners or occupants of abutting lands or other persons have access to or from the highway.

(14) Outer separation - The area between the traveled way of a roadway for through traffic and a frontage road or street.

(15) Pavement structure - The combination of the surface, base course, subbase, and a minimum eight inches of stabilized subgrade material which supports the traffic load and distributes it to the roadbed. A minimum of eight inches of subgrade stabilization is to be considered a part of the pavement structure.

(16) TMUTCD - The most recent edition of Texas Manual on Uniform Traffic Control Devices for Streets and Highways.

(17) Utilities - All lines and/or their accessories within the highway rights of way except those for highway-oriented needs. Such utilities may involve underground, surface, or overhead facilities either singularly or in combination. Accessories are any attachments, appurtenances, or integral parts of the utility (i.e., fire hydrants, valves, gas regulators, etc.). The placing of accessories within the highway right of way will be determined by such factors as type, size, safety, availability of space, etc.

Source Note: The provisions of this §21.31 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.32 Purpose

These sections prescribe the minimums relative to the accommodation, method, and location for the installation, adjustment, and maintenance of utility facilities, including privately owned, within the rights-of-way of highways on the state highway system. These sections are developed in the interests of safety and protection, utilization, and future development of highways with due consideration given to public service afforded by adequate and economical utility installations.

Source Note: The provisions of this §21.32 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.33 Application

(a) For highways under the jurisdiction of the department, the provisions of this undesignated head concerning utility accommodation shall apply to:

(1) new utility installations;

(2) additions to existing utility installations;

(3) adjustments or relocations of utilities incident to highway construction; and

(4) existing utility installations retained within the right-of-way.

(b) The provisions of this undesignated head, concerning utility accommodation will not be applied to

utility facilities presently located within the rights-of-way of completed highways for which agreements with the department were entered into prior to December 31, 1988.

(c) Various types of utility lines not specifically covered herein shall be considered within the provisions of this undesignated head concerning utility accommodation in accordance with the nature of the line. It shall be a general practice to consider all lines carrying caustic, flammable, or explosive materials under the provisions for high pressure gas and liquid fuel lines.

Source Note: The provisions of this §21.33 adopted to be effective May 29, 1989, 14 TexReg 2370; amended to be effective July 13, 1990, 15 TexReg 3751.

§21.34 Scope

These sections govern on matters concerning accommodation, location and methods for the installation, adjustment, relocation, and maintenance of utilities on highway rights-of-way, but do not alter current authority for their installation nor determination of financial responsibilities for placement or adjustment thereof. Where industry or governmental codes, orders, or laws require utilities to provide a higher degree of protection than provided herein, the higher degree of protection shall prevail.

Source Note: The provisions of this §21.34 adopted to be effective January 1, 1976.

§21.35 Exceptions

(a) Except as provided in §21.48 (relating to Traffic Structures), for a utility facility occupying the right of way under a use and occupancy agreement form as described in §21.53 of this title (relating to Use and Occupancy Agreement Forms), exceptions to any design, location, or methods of installation provisions contained in these sections relating to utility accommodation shall be recommended for approval by the District Engineer or designee and authorized by the Right of Way Division Director using the form entitled "Certification for Utility Accommodation".

(b) Except as provided in §21.48 of this title (relating to Traffic Structures), for a proposed utility installation on an existing highway placed by a notice of proposed installation form as described in §21.54 of this title (relating to Notice Forms), or by any instrument other than a use and occupancy agreement form, exceptions to any design, location, or methods of installation provisions contained in these sections shall be recommended for approval by the District Engineer or designee and authorized by the Maintenance Division Director.

(c) Requests for exceptions will be considered only where it is shown that extreme hardship and/or unusual conditions provide justification and where alternate measures can be prescribed in keeping with the intent of these sections. All requests for such exceptions shall be fully documented with design data, cost comparisons, and other information that may be pertinent.

Source Note: The provisions of this §21.35 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective April 21, 1997, 22 TexReg 3443; amended to be effective February 21, 1999, 24 TexReg 1220

§21.36 Authority of Utilities

(a) Under existing state laws, various utility firms and agencies have a right to install their lines along

and/or across highway right-of-way. This includes those firms which are authorized by the laws of this state to transport and/or distribute natural gas, water, electric power, telephone (including cable television), and salt water and those which are authorized to construct and operate common carrier petroleum and petroleum product lines.

(b) Private lines should normally be allowed to cross, but should not be permitted longitudinally on highway right-of-way. This includes but is not limited to privately-owned lines from gas or oil wells, lines owned by oil companies within refinery and oil storage complexes, by firms which are engaged in businesses other than those described in subsection (a) of this section, and domestic lines owned by individuals.

Source Note: The provisions of this §21.36 adopted to be effective January 1, 1976.

§21.37 Location

(a) Utility lines shall be located to avoid or minimize the need for adjustment for future highway improvements and to permit access to the utility lines for their maintenance with minimum interference to highway traffic.
(b) On controlled access highways, the location shall permit maintenance of the utility by access from frontage roads where provided, nearby or adjacent roads and streets or trails along or near the highway right-of-way line, to the extent practicable, without access from the through traffic roadways or ramps.

(c) New utilities will not be permitted to be installed longitudinally within control of access lines of any freeway, except that in special cases such installations may be permitted under strictly controlled conditions. However, in each such case the utility owner must show that:

(1) the accommodation will not adversely affect the safety, design, construction, operation, maintenance, or stability of the freeway;

(2) the accommodation will not be constructed and/or serviced by direct access from the through traffic roadways or connecting ramps;

(3) the accommodation will not interfere with or impair the present use or future expansion of the freeway; and

(4) any alternative location would be contrary to the public interest. (This determination would include an evaluation of the direct and indirect environmental and economic effects that would result from the disapproval of the use of such right-of-way for the accommodation of such utility.)

(d) Where a utility already exists within the proposed right-of way of a freeway and it can be serviced, maintained, and operated without access from the through traffic roadways or ramps, it may remain as long as it does not adversely affect the safety, design, construction, operation, maintenance, or stability of the freeway; otherwise, it must be relocated.

(e) The longitudinal installation of a utility between the right-of-way line and the frontage road will not violate control of access in those control areas near ramp terminals.

(f) When longitudinal installations are proposed within existing access control lines as special cases and meet the conditions under subsection (c) of this section, a utility strip shall be established by locating a utility access control line between the proposed utility facility and the through roadway and ramps. Existing fences should be retained and, except along sections of freeways having frontage roads,

planned fences should be located at the freeway right-of-way line. Denial of access regarding property adjoining the right-of-way line will not be altered.

(g) Longitudinal installations shall be located on uniform alignment as near as practicable to the right-of-way line to provide space for future highway construction and for possible future utility installations.

(h) On highways with frontage roads, longitudinal utility installations will be located between the frontage roads and the right-of-way line. Utility lines shall not be placed or remain in the center median, or beneath through traffic roadways, ramps, or connecting roadways (including shoulders).

(i) Utility lines crossing the highway should be located at approximate right angles to the highway to the extent feasible and practicable. Reasonable latitude may be exercised as regards the crossing angle of existing lines which are otherwise qualified to remain in place.

(j) The horizontal and vertical location of utility lines should conform with the clear roadside practices of the department, consistent with the clearances applicable to all roadside obstacles.

(k) In utility installations, consideration shall be given to state and local requirements. It shall be the utility company's responsibility to determine if other utility lines exist or are planned at the proposed installation area. The utility company should insure that the proposed installation is compatible with existing or proposed utilities.

Source Note: The provisions of this §21.37 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.38 Design

(a) The design of any utility installation will be the responsibility of the utility company. An installation within the highway right-of-way must be reviewed and approved by the department with regard to the location and the manner of adjustment. This includes the measures to be taken to preserve the safety and free flow of traffic, structural integrity of the roadway or highway structure, ease of highway maintenance, appearance of the highway, and the integrity of the utility facility. Utility installations on, over, or under the right-of-way of the state highway system shall conform with requirements contained herein and/or, as a minimum, the appropriate requirements outlined in the following, whichever is greater.

(1) Safety rules for the installation and maintenance of electric supply and communication lines - National Electric Safety Code.

(2) Title 49, Code of Federal Regulations, Part 192, Transportation of Natural and Other Gas by Pipeline: minimum federal safety standards and amendments.

(3) Title 49, Code of Federal Regulations, Part 195, Transportation of Liquids by Pipelines and amendments.

(4) Latest American Society for Testing and Materials (ASTM) specifications.

(5) Most recent edition of the Texas Manual on Uniform Traffic Control Devices.

(6) Latest edition of the Rules and Regulations for Public Water Systems, published by the Texas Department of Health, Water Hygiene Division.

(7) Most recent edition of the AASHTO policy entitled "A Policy on the Accommodations of Utilities Within Freeway Right of Way."

(b) All utility installations will be of durable materials designed for long life expectancy and relatively free from routine servicing or maintenance. In addition to the requirements herein, any existing utility lines to remain in place must be of satisfactory design and condition in the opinion of the district engineer.

(c) Special precautions should be taken during utility installations to avoid disturbing existing drainage courses. In addition, soil erosion should be held to a minimum and sediment from the construction site should be kept away from the roadway and drain inlets.

(d) Underground utility installations should be backfilled with pervious material and outlets provided for entrapped water. Underdrains shall be provided where necessary. No jetting or puddling beneath the roadway will be permitted.

(e) Clearances between underground utilities and storm sewers shall be a minimum of 12 inches if the installation can take place without disturbing the storm sewer installation. Otherwise, the minimum clearance will be 24 inches.

(f) On new installations or adjustment of existing utility lines provision for known or planned expansion of the utility facilities may be made, all at the sole expense of the utility firm. Any such expansion should be planned so as to minimize hazards and interference with highway traffic at a future date.

(g) Manholes shall be limited to those necessary for installation and maintenance of underground lines. In no case shall they be placed or permitted to remain in the pavement or shoulders of high volume roadways except at those locations on noncontrolled access highways in urban areas where necessary for existing lines which may be permitted to remain in place under existing or proposed roadways. Manholes may remain in place or be installed under traffic lanes of low volume roadways in municipalities, provided measures are taken to minimize such installations and to avoid their locations at intersections insofar as possible. Manholes vary as to size and shape depending on the type of utility they serve. To conserve space their dimensions should be the minimum acceptable by good engineering and safety standards. In general, the only equipment to be installed in manholes located on highway right-of-way is that which is essential to the normal flow of the utility, such as circuit reclosers, cable splices, relays, valves, and regulators. Other equipment such as substation equipment, large transformers, pumps, etc., should be located outside the limits of the highway right-of-way. Straight line manholes are the only type normally permitted within the right-of-way. The width dimensions should be no larger than is necessary to hold equipment involved and for safety standards to be assured for maintenance personnel. Outside width should not exceed seven feet, with the length to be held to a reasonable minimum. The outside diameter of the manhole chimney at the ground level should not exceed 36 inches. Where proven necessary the outside diameter of the chimney may be up to 50 inches. The top of the roof of the manhole should be five feet below ground level. Where such depth factor is impracticable sufficient data should be submitted to the department for handling as an exception. For width and depth requirements concerning sanitary sewer manholes refer to §21.46 of this title (relating to Sanitary Sewer Lines). All manhole covers shall be installed flush with the ground and/or pavement surface, whichever is applicable. In order to minimize vandalism, manhole covers placed anywhere within state right-of-way must weigh at least 175 pounds. All underground utilities within the highway right-of-way, including manhole rings and covers, must be designed for HS-20 loading.

Source Note: The provisions of this §21.38 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.39 Aesthetics

a) To preserve and protect trees, shrubbery, and other aesthetic features on the highway right-of-way the department may specify the extent and methods of tree removal, tree trimming, or their replacement, and replacement of other aesthetic features, including installation methods of the underground or overhead utility. The district engineer shall use due consideration in establishing the value of trees and other aesthetic features in the proximity of a proposed utility line and any special district requirements justified by the value of the trees and other aesthetic features.

(b) The department shall specify prompt replacement of sod, removal of debris, and any other restoration necessary to place the highway in condition equal to that prior to the utility installation.

Source Note: The provisions of this §21.39 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.40 Safety

(a) Appropriate measures shall be required in the interests of safety, traffic convenience, and access to adjacent property. Appropriate signs, markings, and barricades shall be placed by the utility prior to the beginning of construction and shall be maintained to properly warn motorists. All traffic control devices shall conform to the TMUTCD. No traffic shall be blocked or stopped at any time without the presence of a vested flagperson to warn and control traffic.

(b) Where the cost of installation is the responsibility of the utility firm, the department shall require reimbursement for its cost of measures that the department may take in the interests of traffic safety, or restoration and repairs to the highway, which are made necessary by the utility installation.

(c) It is the responsibility of the district engineer to provide inspection as needed to insure that installations are accomplished in a safe manner as approved by the department.

Source Note: The provisions of this §21.40 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.41 Site Clean-up

Roadways adjacent to utility construction sites shall be kept free from debris, roadway construction material, and mud. At the end of every construction day, construction equipment and materials shall be removed as far from the roadway edges as feasible. When utility installation is complete, the right-of-way shall be reshaped to its original condition or better and the area reseeded or resodded to reduce erosion. Should settlement or erosion occur within six months after utility installation, the utility shall reshape, reseed, or resod the area.

Source Note: The provisions of this §21.41 adopted to be effective May 29, 1989, 14 TexReg 2370.

§21.42 Pipelines—General

(a) Method of protection.

(1) Encasement. In general, underground utility line crossings shall be encased in the interest of safety, protection of the utility, protection of the highway, and for access to the utility. Encasement shall be as specified for each type of line discussed herein. Casing shall consist of a pipe or other separate structure around and outside the carrier line and shall be designed to support the load of the highway and superimposed loads thereon, including that of construction machinery. The strength of the casing shall equal or exceed structural requirements for drainage culverts and it shall be composed of materials of satisfactory durability under conditions to which it may be subjected.

(2) Optional for gas or liquid petroleum pipelines. Welded steel pipeline crossings may be installed without encasement provided such pipelines conform with 49 Code of Federal Regulations, Part 192, Transportation of Natural and Other Gas By Pipeline or Part 195, Transportation of Liquids By Pipeline as applicable. In accordance thereof such pipelines shall provide:

(A) increased wall thickness and/or higher strength steel;

(B) greater depth of cover; and

(C) adequate markings as specified for each type of line discussed herein. Such pipelines shall also be designed to withstand internal design pressures and the superimposed loads of the roadway and traffic, including that of construction machinery.

(b) Manholes. Manholes serving this type of utility should be straight on line installations with a minimum overall width necessary to operate and maintain the enclosed equipment.

(c) Depth of underground lines. The depth of underground lines shall be as specified herein for each type of utility. Where placements at such depths are impractical or where unusual conditions exist, the department shall specify other protection as may be appropriate in lieu of the depth of bury required for the particular utility line.

(d) Methods of installation.

(1) Lines placed under any existing roadway shall be installed by boring or tunneling in accordance with appropriate specifications. Jacking may be used only when approved by the district engineer. When installed by jacking or boring, encasement of the line may be required.

(2) For rural (uncurbed) highway cross sections, all borings shall extend beneath all travel lanes plus:

(A) 30 feet from all freeway main lanes and other high-speed (exceeding 40 mph) highways except as indicated in subparagraph (B) of this paragraph;

(B) 16 feet for high-speed highways with current average daily traffic volumes of 750 vehicles per day or less;

(C) 16 feet for ramps; and

(D) 10 feet for low-speed (40 mph or less) highways.

(3) For urban (curbed) highway cross sections, all borings shall extend beneath travel and parking lanes and extend beyond the back of curb plus:

(A) 30 feet from high-speed (greater than 40 mph) facilities; and

(B) three feet from low-speed (40 mph or less) facilities, plus any additional width to clear an existing

sidewalk.

(4) All traffic control devices (signs, markings, barricades, etc.) used to warn motorists of the construction activity must conform to the TMUTCD.

(5) Where circumstances necessitate the excavation of a bore pit closer to the edge of pavement than set forth in paragraph (1) of this subsection, a guard fence or other approved protective devices will be installed for protection of the traveling public in accordance with current departmental standards. Bore pits shall be located and constructed in such a manner as not to interfere with highway structural footings, safe roadside clearance, or traffic operations. If necessary, shoring shall be utilized.

(6) The use of explosives for any excavations on the right-of-way incident to utility line installation shall be permitted only when the department has adequate assurance that no damage or hazard will be caused thereby. Such assurance should normally include detailed plans and procedures approved by a person who is qualified and experienced in the use of demolitions.

(7) Where longitudinal trenching on the right-of-way is permitted, backfill shall be compacted to densities equal to that of the surrounding soil. Trenching across jointed concrete pavement should not be permitted, and in no instance shall trenching across continuously reinforced concrete pavement be permitted. Exceptions may be made to permit trenching across low volume roadways or urban noncontrolled access roadways where conditions justify. Where trenching across other type pavements is justified, the department shall specify detailed methods for removal and replacement of embankment, base, and surfacing.

(e) Unsuitable conditions. Conditions which are generally unsuitable or undesirable for pipeline crossings should be avoided. These include locations such as deep cuts; near footings or bridges and retaining walls; across intersections at-grade or ramp terminals; at cross-drains where flow of water, drift, or stream bedload may be obstructed; within basins or an underpass drained by a pump if pipeline carries a liquid or liquefied gas; and in wet or rocky terrain where minimum depth of cover would be difficult to attain.

(f) Clearances. Vertical and horizontal clearances between a pipeline and a structure or other highway or utility facilities should be sufficient to permit maintenance of the pipeline and the other facilities.

(g) Drainage easements. Where it is necessary for pipelines to cross drainage easements, outside of the right-of-way, the same minimum depth of cover shall be maintained as required for crossing ditches inside of the right-of-way. In cases where soil conditions are such that erosion might occur or where it is not feasible to obtain specified depth, it shall be the responsibility of the utility owner to install retards, encasement, concrete slabs over the pipe, or take such other measures as needed for safety and to protect the highway and the pipeline. Where grades on the pipelines must be maintained, such as gravity flow sewer lines, each case will be worked on an individual basis, keeping in mind that the main purpose of the channel is to carry drainage water and that this flow must not be obstructed.

Source Note: The provisions of this §21.42 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.43 High Pressure Gas and Liquid Petroleum Lines

(a) Depth of cover.

(1) For encased high pressure gas or liquid petroleum lines, the minimum total clear depth of cover for

casing pipe shall be 30 inches. For that portion of the carrier line outside of the casing pipe, including longitudinal portions, the minimum depth of cover within the highway right of way shall be 36 inches. Exceptions may be authorized to permit existing lines to remain in place with a reduction of six inches in the above specified depths of cover. All lines normally shall be a minimum of 18 inches or one-half the diameter of the pipe, whichever is greater, beneath the bottom of the pavement structure. Where materials and other conditions justify, such as on existing lines with encasement that are to remain in place, a minimum depth under the pavement structure of 12 inches or one-half the diameter of the pipe, whichever is greater, may be permitted.

(2) For unencased high pressure gas or liquid petroleum lines, the minimum depth of cover shall be 60 inches under the pavement surface or 18 inches under the pavement structure, whichever is greater. Under ditches, the minimum depth of cover shall be 48 inches. Exceptions may be authorized to permit a reduction in the specified depths of cover where the pipeline is protected by a reinforced concrete slab. As used herein, depth of lines is the depth to top of carrier (if unencased) or casing (if required).

(b) Crossings.

(1) Pipeline installations across highways may be encased or unencased. Where encasement is to be employed, the encasement shall be provided under center medians and from top of backslope to top of backslope for cut sections (or five feet beyond the toe of slope for fill sections, or face of curb) of all roadways including side streets, and five feet beyond any overpass or other structure where the line passes under it. Encasement may be omitted under center medians where their width is appreciably greater than normal rural standards.

(2) Where encasement is not employed the welded steel carrier pipe shall provide sufficient strength to withstand the internal design pressure and the dead and live loads of the pavement structure and traffic. Additional protective measures should include:

(A) heavier wall thickness and/or higher factor of safety in design;

(B) adequate coating and wrapping;

(C) cathodic protection; and

(D) other measures as required by Title 49, Code of Federal Regulations, Part 192 or Part 195.

(3) The minimum length of the additional protection as set forth in paragraph (2) of this subsection shall be the same as that required by encasement.

(4) Existing lines under low volume farm-to-market roads and low volume highways may be permitted to remain in place without encasement or extension of encasement if they are protected by a reinforced concrete slab or equivalent protection or if they are located at a depth of five feet under the pavement surface and not less than four feet under the roadway ditch. If a reinforced concrete slab is to be used, it should meet the following standards:

(A) width - three times the diameter of the pipe or five foot minimum, whichever is greater;

(B) thickness - six inch minimum;

(C) reinforcement - #4 bars at 12 inch centers each way or equivalent wire mesh;

(D) cover - the cushion between the bottom of slab and top of pipe shall be not less than six inches.

(c) Vents. One or more vents shall be provided for each casing or series of casings. For casings longer than 150 feet, vents should be provided at both ends. On shorter casings a vent should be located at the high end with a marker placed at the low end. Vents shall be placed at the right of way line immediately above the pipeline, situated so as not to interfere with highway maintenance or concealed by vegetation. Ownership of the lines shall be shown on the vents.

(d) Markers. The utility company shall place a readily identifiable and suitable marker at each right of way line where it is crossed by any high pressure gas or liquid petroleum line except where marked by a vent. Readily identifiable and suitable markers in sufficient number as determined by the district engineer shall be placed at the right of way line for lines installed longitudinally within the right of way.

(e) Above-ground appurtenances. Above-ground appurtenances, except vents, for gas lines shall not be permitted within the highway right of way.

(f) Exceptions to location requirements. In urban areas, existing longitudinal lines that are not under the pavement or shoulder of any roadway or in the center median of a controlled access highway may be permitted to remain in place provided all other requirements are met.

Source Note: The provisions of this §21.43 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.44 Low Pressure Gas Lines

(a) Depth of cover. For low pressure gas lines the minimum depth of cover within the right of way and under highway ditches, but outside the pavement structure, including longitudinal portions, shall be 24 inches for either encased or unencased installations. Exceptions may be authorized to permit existing lines to remain in place with a reduction of six inches in the above specified depth. Low pressure gas lines shall be a minimum of 18 inches or one-half the diameter of the pipe, whichever is greater, beneath the bottom of the pavement structure. Where materials and other conditions justify, such as on existing lines to remain in place, a minimum depth under the pavement structure of 12 inches or one-half the diameter of the pipe, whichever is greater, may be permitted. As used herein, depth of lines is the depth to the top of carrier pipe or casing as applicable.

(b) Encasement. Low pressure gas lines shall be encased as required for high pressure gas and liquid petroleum lines or they may be placed without encasement if they are of welded steel construction and are protected from corrosion by adequate and approved cathodic protective measures, with specific agreement that the pavement will not be cut for repairs to the pipeline at any time in the future.

(c) Vents. Reference should be made to §21.43 of this subchapter.

(d) Markers. The utility company shall place a readily identifiable and suitable marker at each right of way line where it is crossed by a low pressure gas line except where marked by a vent. Readily identifiable and suitable markers in sufficient number as determined by the district engineer shall also be placed at the right of way line for lines installed longitudinally within the right of way.

(e) Plastic lines. Plastic lines may be used provided the internal pressure will not exceed 60 pounds per square inch, they are encased right of way line to right of way line on crossings, and have at least 30 inches of cover. The maximum size of plastic lines for crossings shall not exceed 24 inches. The maximum size of plastic lines placed longitudinally shall not exceed six inches. Where plastic pipe is installed longitudinally a durable metal wire shall be concurrently installed or other means shall be

provided for detection purposes.

(f) Above-ground appurtenances. Above ground appurtenances, except vents, for gas lines shall not be permitted within the highway right of way.

(g) Exception to location requirements. In urban areas, existing longitudinal lines which can be maintained without violating access control and that are not under the pavement or shoulder of any proposed roadway or existing roadway that is scheduled for a major improvement may remain in place provided all other requirements are met and provided further that measures are taken to minimize any future need for cutting pavement to make service connections on any high traffic roadway.

Source Note: The provisions of this §21.44 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.45 Water Lines

(a) Depth of cover. The depth of cover for water lines shall be the same as stipulated for low pressure gas lines in §21.44 of this title (relating to Low Pressure Gas Lines).

(b) Encasement. Encasement shall be provided under normal width center medians and from center of ditch to center of ditch for cut sections (or five feet behind toe of slope for fill sections or face of curb) of all roadways. Encasement may be omitted under center medians where their width is appreciably greater than normal rural standards (76 feet). Encasement under side road entrances may be omitted in consideration of traffic volume, condition of roadway, maintenance responsibility, and local practice. Encasement under low traffic roadways may be omitted on existing water lines having an inside diameter of 24 inches or more and on new lines having an inside diameter of 30 inches or more, provided all other requirements are met.

(c) Plastic lines. Plastic lines may be used provided they have at least 30 inches of cover for both crossing and longitudinal segments. Crossings shall be encased in accordance with §21.42 of this title (relating to Pipelines - General) and §21.43 of this title (relating to High Pressure Gas and Liquid Petroleum Lines).

(d) Nonmetallic pipe detection. Where nonmetallic pipe is installed longitudinally a durable metal wire shall be concurrently installed or other means shall be provided for detection purposes.

(e) Exceptions to location requirements. Same as stipulated for low pressure gas lines in §21.44 of this title (relating to Low Pressure Gas Lines).

(f) Manholes. The outside diameter of the manhole chimney at the ground level shall not exceed 36 inches.

(g) Markers. The utility company shall place a readily identifiable and suitable marker at each right-of-way line where it is crossed by a water line.

(h) Irrigation and drainage facilities. Irrigation and drainage facilities installed across any highway right-of-way shall be designed and constructed in accordance with departmental standards for highway culverts or bridges.

(i) Ditches and canals. Longitudinal ditches and canals which would closely parallel the highway shall not be permitted nor will any appurtenances be permitted within the clear roadside area which would

constitute a hazard to traffic.

(j) Location of road. Extreme care shall be exercised in the location of levee roads or ditch rider roads where they intersect the highway so as to avoid establishing any hazards at points of critical sight distance.

Source Note: The provisions of this §21.45 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.46 Sanitary Sewer Lines

(a) Depth of cover. The depth of cover for sanitary sewer lines shall be the same as stipulated for low pressure gas lines in §21.44 of this title (relating to Low Pressure Gas Lines).

(b) Encasement. Lines to be operated under pressure and those composed of materials not conforming to material or depth of cover requirements herein shall be encased as prescribed for water lines in §21.45 of this title (relating to Water Lines).

(c) Materials. New and relocated sewer lines crossing through traffic roadways, ramps, and connecting roadways, ramps and connecting roadways of controlled access highways, and any other high-traffic roadways shall be ductile iron, with satisfactory joints, or materials and designs which will provide equal or better protection of the integrity of the highway system and resistance to damage from sulfide gases and other corrosive elements to which they may be exposed. New and relocated longitudinal lines and those crossing low-traffic roadways may be of any material which has been proven to be of satisfactory strength and durability in local use, provided all other requirements are met.

(d) Nonmetallic pipe. Where nonmetallic pipe is installed longitudinally a durable metal wire shall be concurrently installed or other means shall be provided for detection purposes.

(e) Manholes. Manholes serving sewer lines up to 12 inches shall have a maximum ID of four feet. For any increase in line size greater than 12 inches the manhole ID may be increased a like amount. Manholes for large interceptor sewers should be specially designed, keeping the overall dimensions to a minimum. The outside diameter of the manhole chimney at the ground level shall not exceed three feet. For additional requirements refer to §21.38 of this title (relating to Design).

(f) Exception for existing lines in urban areas. Except where relocation is necessary to clear existing sewer lines from structures or other highway appurtenances or for other specific reasons, the department may permit existing lines in urban areas to remain in place at any location (except longitudinally under the center median, through traffic lanes or ramps of controlled access highways) provided the line is of satisfactory quality and depth, manholes are adjusted in conformance with general requirements herein, and provisions are made to assure that future service lines requiring violation of access control or disturbing any roadway will be avoided.

Source Note: The provisions of this §21.46 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.47 Utility Structures

(a) Interstate highways. Where it would be more economical to carry one or several utility lines across a freeway in a tunnel or on a bridge rather than in separately trenched and encased crossings,

consideration should be given to providing a separate structure, specifically for the utility crossing. Such a structure may serve a joint purpose as a utility and pedestrian facility and/or sign support structure. In providing a utility tunnel or bridge, the following should be met.

(1) Mutually hazardous transmittants, such as fuels and electric energy, shall be isolated by compartmentalizing or by auxiliary encasement of incompatible carriers.

(2) The utility tunnel or utility bridge structure shall conform in design, appearance, location, bury, earthwork, and markings to the culvert and bridge practices of the department.

(3) Where a pipeline on or in a utility structure is encased, the casing shall be effectively opened or vented at each end to prevent possible build up of pressure and to detect leakage of gases or fluids.

(4) Where a casing is not provided for a pipeline on or in a utility structure, additional protective measure shall be taken, such as employing a higher factor of safety in the design, construction, and testing of the pipeline than would normally be required for cased construction.

(5) Communication and electric power lines shall be suitably insulated, grounded and preferably carried in protective conduit or pipe from the point of exit from the ground to reentry. The cable should preferably be carried to a manhole located beyond the backwall of the structure. Carrier and casing pipe should be suitably insulated from electric power line attachments.

(6) Shut-off valves, preferably automatic, shall be installed in lines at or near ends of utility structures unless segments of the lines can be isolated by other sectionalizing devices within a reasonable distance.

(7) It is agreed by the utility companies that any maintenance, servicing or repair of the utility lines will be their responsibility.

(b) Noninterstate highways. If a utility line (or lines) is on its own easement and it would be more economical to the department to adjust the line (or lines) across a highway by use of a utility tunnel or bridge rather than to provide separately trenched and cased crossing, consideration should be given to provision of such a structure. Where the utility line (or lines) is on a public right-of-way by sufferance and the adjustment of the utility is the sole responsibility of the private or public utility company, the department may permit the provision of a utility structure without cost to the department provided the conditions outlined in subsection (a) of this section and all other pertinent requirements are met. If a structure is to serve as a joint utility-pedestrian crossing or a joint utility-sign support structure, the department will participate in the same to the extent necessary for accommodation of pedestrians and/or highway signs only.

Source Note: The provisions of this §21.47 adopted to be effective January 1, 1976.

§21.48 Traffic Structures

(a) The attachment of utility lines to bridges and separation structures is discouraged, since the proliferation of such lines and their maintenance constitute a hazard to traffic as well as complicating the widening or repair of such structures. Attaching utility lines to a highway structure can materially affect the structure, the safe operation of traffic, the efficiency of maintenance, and the overall appearance. Therefore, when it is feasible and reasonable to locate utility lines elsewhere, attachment to bridge structures will not be allowed.

(b) Where other arrangements for a utility line to span an obstruction are not feasible, the department

may consider the attachment of such line to a bridge structure. Any exceptions which are permitted shall be handled in accordance with the conditions set forth in §21.47 of this subchapter and other pertinent requirements contained herein. Each such attachment will be considered on an individual basis, and permission to attach will not be considered as establishing a precedent for granting of subsequent requests for attachment. The following guides are established for attachment of utilities to bridges.

(1) When it is impractical to carry a self-supporting communication line across a stream or other obstruction, department policy is to permit the attachment of the line to its bridges. On existing bridges the state generally requires that the line be enclosed in conduits and so located on structures as not to interfere with stream flow, traffic, or routine maintenance operations. When a request is made prior to construction of a bridge, suitable conduits will be provided in the structure if the utility company bears the cost of all additional work and materials involved.

(A) When a line is attached to a bridge, the state will enter into a special agreement or contract with the utility company.

(B) In urban areas where it is the state's responsibility to provide for the adjustment of telephone lines or telephone conduits to accommodate the construction of a highway, and the adjustment provides for the placement of telephone conduits in a highway grade separation structure, the department will allow a reasonable number of spare telephone conduits in the structure provided the spares are placed at the time of construction and the telephone company bears the cost of these spare conduits.

(C) Where the construction of a highway makes it necessary to relocate telephone conduits and the proper adjustment, in the opinion of the department, provides for the placement of telephone conduits in the highway grade separation structure, the department will permit the telephone company to install replacement telephone conduits and a reasonable number of spares in the structure provided such conduits are placed at the time of construction and provided the company bears any extra structure cost occasioned by the presence of the telephone conduits.

(2) No gas or liquid fuel lines shall be attached to a bridge or grade separation structure without the specific approval of the executive director.

(3) Power lines are not permitted on bridges under any condition with the exception of low-voltage distribution lines where the cost of independent facilities to carry these lines would be prohibitive.

(4) When a municipality or utility company requests permission to attach a pipeline to a proposed bridge prior to construction, and the added load is sufficient to require an increase in the strength of the structure, or use of more costly materials or type of construction, the utility owner is required to pay for the increase in cost.

(5) When a utility company requests permission to attach a pipeline to an existing bridge, sufficient information should be furnished to allow a stress analysis to determine the effect of the added load on the structure. Other details of the proposed attachment as they effect safety and maintenance should also be presented. If the bridge structure is not of adequate strength to carry the increased weight or forces with safety, permission will not be granted.

(6) All requests for attachments to bridges or structures should originate with the utility company by its making application to the appropriate district engineer.

(A) For attachments to structures within active projects, requests for attachment along with the district engineer's recommendation should be forwarded to the director of the Bridge Division for review and concurrence. Adequate justification, including details and an estimate for an independent utility

crossing, should accompany the submission. If the attachment is allowed, the director of the Bridge Division will prepare a suitable agreement and forward it to the district for handling with the utility company for execution. Modification of the structural details to accommodate the utility and the responsibility of cost thereof will be developed by the director of the Bridge Division. Where applicable, the director of the Bridge Division will coordinate the submission with the director of the Right of Way Division. In addition, use and occupancy agreement forms shall be required as cited in §21.52 and §21.53 of this subchapter.

(B) For attachments to structures not within active projects, requests for attachment along with the district engineer's recommendation should be forwarded to the director of the Maintenance Division for review and concurrence. Adequate justification, including details and an estimate for an independent utility crossing, should accompany the submission. The proposal will then be forwarded to the director of the Bridge Division for review and determination of the effect of the proposed attachment on the existing structure. If the attachment is allowed, the director of the Bridge Division will prepare a suitable agreement and forward it to the district for handling with the utility company for execution. In addition, notice forms shall be required as cited in §21.52 and §21.54 of this subchapter.

Source Note: The provisions of this §21.48 adopted to be effective January 1, 1976; amended to be effective June 3, 1982, 7 TexReg 1953; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.49 Overhead Power and Communication Line

(a) Type of construction. Longitudinal lines on the right-of-way shall be limited to single pole construction. Transverse lines should desirably be limited to single pole construction; however, where an existing or proposed utility is supported by "H" frames, towers, etc., the same type structures may be utilized for the crossing provided all other requirements herein are met.

(b) Vertical clearance. Except as stated herein, the minimum vertical clearance above the highway shall not be less than 22 feet for power lines, and 18 feet for communication and cable television lines. These clearances may be greater, as required by the National Electric Safety Code and governing laws.

(c) Location.

(1) In rural areas and at uncurbed sections in urban areas, poles supporting longitudinal lines shall be located from one to three feet from the right-of-way edge, except that at the option of the department this distance may be varied at short breaks in the right-of-way line. Guy wires placed within the right-of-way shall be held to a minimum and should normally be in line with the pole line; however, other locations may be permitted, but in no case shall the guy wires or poles be located closer than the minimum allowed for the specific design values for the highway class and volumes as shown in Appendix A of this section. At curbed sections, in urban areas, poles shall be located as far as practical behind the outer curbs and preferably adjacent to the right-of-way line. Steel poles with bases greater than 36 inches shall not be placed within the right-of-way except in extreme hardship situations and if sufficient space remains for other utilities. Exceptions may be considered where ample right-of-way exists and the poles are to be placed outside of the clear zone or in accordance with the minimum allowed for the specific design value for the highway class and volume, whichever is greater.

(2) At crossings, no poles will be permitted in the center median of any highway. Poles will only be permitted in outer separations or more than three feet inside the right-of-way where the right-of-way is of such extreme width (over 300 feet) that the cost of spanning it is excessive and where poles can be

located in accordance with the intent and provisions of paragraph (1) of this subsection.

(3) As a general rule, overhead power, communication, and cable television line crossings at bridges or grade separation structures should be avoided, if possible. If rerouting the line completely around the structure and approaches is not economically feasible, a minimum horizontal distance of 150 feet or a minimum vertical clearance of 30 feet should be provided to insure adequate safety for construction and maintenance operations.

(d) Horizontal clearances. The following Appendix A indicates the design values for horizontal clearances.

APPENDIX A

HORIZONTAL CLEARANCES

Location	**Functional Classification**	**Design Speed (mph)**	**Avg. Daily Traffic**[1]	**Clear Zone Width (ft.)** [2, 3, 4] **Minimum Desirable**
Rural	Freeways	All	All	30 (16' for ramps)
Rural	Arterial	All	0 - 750	10 16
			750 - 1500	16 30
			1500 or more	30 -
Rural	Collector	45 or more	All	Use above rural arterial criteria.
		40 or less	All	10 -
		All	All	10 -
Rural	Local			
	Freeways	All	All	30 (16' for ramps)
Urban	All (curbed)	45 or less	All	1.5 from 3'
Urban				curb face
	All (uncurbed)	45 or more	All	Use above rural arterial criteria.
Urban	All (uncurbed)	40 or less	All	10 -
Urban	All (curbed)	50 or more	All	Use above rural arterial criteria insofar as available border width permits.
Urban				

[1] Average ADT over project life, i.e., 0.5 (present ADT and future ADT). Use total ADT on two-way roadways, directional ADT on one-way roadways.

[2] W/O barrier or other safety treatment of appurtenances.

[3] Measured from edge of travel lane for all cut sections and for all fill sections where side slopes are 6:1 or flatter. Where fill slopes are steeper then 6:1 it is desirable to provide a hazard-free area beyond the toe of slope.

[4] Desirable, rather than minimum, values should be used where feasible.

Source Note: The provisions of this §21.49 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366.

§21.50 Underground Power Lines

(a) Longitudinal. All underground power lines placed within the right of way may be directly buried at depths according to the voltages of power lines as follows.

VOLTAGE	MINIMUM DEPTH OF BURY
22,000 or less	30 inches
22,001 to 40,000	36 inches
40,001 and greater	42 inches

These depths are currently required by the National Electric Safety Code. Amendments to the Code may require greater depths in the future.

(b) Crossings. Power lines shall be encased (placed in conduit) and buried a minimum of 36 inches under roadway ditches, and 60 inches below the pavement surface.

(c) Encasement. Encasement shall be provided under center medians and from top of backslope to top of backslope for cut sections (or five feet beyond the toe of slope for fill sections, or face of curb) of all roadways including side streets and beneath and five feet beyond any overpass or other structure where the line passes under it. Encasement may be omitted under center medians where their width is appreciably greater than normal rural standards (76 feet). Existing lines under low-volume farm-to-market roads and low-volume highways may be permitted to remain in place without encasement or extension of encasement if they are protected by a reinforced concrete slab or equivalent protection or if they are located at a depth of six feet under the pavement surface and not less than four feet under the roadway ditch. If a reinforced concrete slab is to be used, it should meet the following standards:

(1) width - five foot minimum;

(2) thickness - six inch minimum;

(3) reinforcement - #4 bars at 12 inch centers each way or equivalent wire mesh;

(4) cover - the cushion between the bottom of slab and top of cable shall be not less than six inches.

(d) Markers. Readily identifiable and suitable markers in sufficient number as determined by the district engineer shall be placed at the right of way line for lines installed longitudinally within the right of way. Where an underground power line crosses, a marker shall be placed at each right of way line.

(e) Location. Longitudinal underground power lines may be placed by plowing or open trench method

and shall be located as set forth in §21.37 of this subchapter.

(f) Aboveground appurtenances. Aboveground utility appurtenances installed as a part of an underground power line shall be located at or near the right of way line, well outside the highway maintenance operation area.

(g) Manholes. Requirements for manholes shall be the same as cited in §21.38 of this subchapter.

Source Note: The provisions of this §21.50 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.51 Underground Communication Lines

(a) Longitudinal. The minimum depth of cover for cable television and copper cable communications lines shall be 24 inches. The minimum depth of cover for a fiber optic facility shall be 42 inches; provided, however, that said minimum depth of cover may be not less than 36 inches if the owner/operator of a fiber optic facility waives damages and fully indemnifies the department in a form acceptable to the department.

(b) Crossings. Lines should be located at approximate right angles to the highway to the extent feasible and practicable. Reasonable latitude may be exercised as regards the crossing angle of existing lines which are otherwise qualified to remain in place.

(1) The minimum depth of cover for cable television and copper cable communication lines shall be 24 inches under ditches or 18 inches beneath the bottom of the pavement structure, whichever is greater.

(2) The top of a fiber optic facility shall be placed a minimum of 42 inches below the ditch grade or 60 inches below the top of the pavement structure, whichever is greater; provided, however, that said minimum depth of cover below the ditch grade may be not less than 36 inches or 60 inches below the top of the pavement structure whichever is greater if the owner/operator waives damages and fully indemnifies the department in a form acceptable to the department.

(3) Lines crossing highways do not require encasement except where in the judgment of the district engineer such encasement is necessary for the protection of the highway facility. Consideration should be given to encasement or other suitable protection for any communication facilities:

(A) with less than minimum bury;

(B) near footings of bridges or other highway structures; or

(C) near other locations where there may be hazards.

(4) When the installation of the line is to be accomplished by boring a hole the same or about the same diameter as the line and pulling it through, then encasement is not necessary. Where such conditions cannot be met, encasement should be provided. The annular void between the drilled hole and the line or casing should be filled with a satisfactory material to prevent settlement of any part of the highway facility over the line or casing.

(5) Encasement may be of metallic or nonmetallic material. Such encasement material shall be designed to support the load of the highway and superimposed loads thereon, including that of construction machinery. The strength of the encasement material shall equal or exceed structural requirements for drainage culverts and it shall be composed of materials of satisfactory durability under conditions to

which it may be subjected. The length of any encasement shall be provided under center medians and from top of backslope to top of backslope for cut sections (or five feet beyond the toe of slope for fill sections, or face of curb) of all roadways including side streets. Encasement may be omitted under center medians where their width is appreciably greater than normal rural standards (76 feet). Where encasement is not installed, specific agreement should be reached with the utility company that the pavement will not be cut for repairs any time in the future.

(c) Markers. The utility company shall place a readily identifiable and suitable marker at each right of way line where it is crossed by an underground communication line. Readily identifiable and suitable markers in sufficient number as determined by the district engineer shall be placed at the right of way line for lines installed longitudinally within the right of way. Where fiber optic lines are installed without a metal sheath or a metal casing, a durable metal wire shall be concurrently installed or other means shall be provided for detection purposes.

(d) Placement. Lines may be placed by plowing or open trench method and shall be located on uniform alignment as near as practical to the right of way line to provide space for possible future highway construction and for possible future utility installations. Distance from the right of way line will depend upon the terrain involved and obstructions such as trees and other existing underground utility lines. On highways with frontage roads, such installation will be located between the frontage roads and the right of way line. Unless authorized by the director of the Bridge Division, director of the Design Division, or director of the Maintenance Division, lines shall not be placed or remain in the center median, or beneath through-traffic roadways or connecting roadways (including shoulders).

(e) Above-ground pedestals. Above-ground pedestals or other utility appurtenances installed as a part of an underground communication line shall be located at or near the right of way line, well outside the highway maintenance operation area.

(f) Manholes. Requirements for manholes shall be the same as cited in §21.38 of this subchapter.

(g) Large equipment housings. Structures that are significantly larger in plan view than single poles may be placed on highway right of way with the following stipulations.

(1) The installation will not significantly hinder highway maintenance operations. This will include consideration of the height of the supporting slab above groundline.

(2) The housing will be placed at or near the right of way line.

(3) The installation will not reduce visibility and sight distance of the traveling public to the extent of creating an unsafe condition. This will be a particular item of consideration where such housings are proposed for placement at or near highway intersections.

(4) Assurance will be made that the dimensions of the housing are minimized, particularly where the need to allow space for highway improvement and accommodation of other utility lines are apparent. Outside depth, length, and height dimensions of the above-ground portion of the housing should not exceed 36 inches, 60 inches, and 54 inches respectively. The supporting slab should not project more than three inches above groundline.

(5) The installation shall be compatible with adjacent land uses.

Source Note: The provisions of this §21.51 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.52 Forms—General

(a) Use and occupancy agreement forms and notice forms are provided for use for utility facilities installed, adjusted, relocated, or retained within highway right-of-way. These forms provide for a definite understanding as to the location and manner in which utilities will be installed and/or maintained and, where applicable, provide the necessary rights needed by the state to occupy the property interests held by the utility company.

(b) On highway routes within the corporate limits of municipalities all utility installations are to be in accordance with this part and subject to the state's approval.

(c) Other forms are also provided for conveyance of utility company property interests to the state when such interests within highway rights-of-way are abandoned.

Source Note: The provisions of this §21.52 adopted to be effective January 1, 1976.

§21.53 Use and Occupancy Agreement Forms

(a) Use and occupancy agreement forms are to be used when in connection with active highway projects an adjusted or relocated utility facility occupies part of the highway right of way or when a utility facility is retained within the highway right of way without adjustment unless the utility has a previously approved department use and occupancy agreement or approved notice form covering the right of way limits and which includes provisions for control of access when applicable. Such forms are used also when a utility has a prior property interest which is being retained within the highway right of way.

(b) These forms shall include such terms and conditions as may be prescribed by the director of the Right of Way Division to convey necessary information in order to protect and preserve the state highway system and the safety, health, and welfare of its use by the traveling public.

Source Note: The provisions of this §21.53 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.54 Notice Forms

(a) Notice forms are provided for use for new utility installations after highway construction is completed. They are also provided for new utility installation placed before or during highway construction except:

(1) where the utility has a compensable property interest; or

(2) the state is participating in the adjustment or relocation cost of the utility installation.

(b) These forms shall include such terms, conditions, and utility location plans, as may be prescribed by the director of the Maintenance Division to convey necessary information and to protect and preserve the state highway system and the safety, health, and welfare, of its use by the traveling public. Utility location plans shall be in accordance with the requirements contained in this undesignated head concerning utility accommodation.

(c) In addition to the requirements in subsection (b) of this section, the district engineer may prescribe special district requirements which will be justified based on the specific soil, terrain, weather,

vegetation, trees, traffic characteristics, type of utility line, or other factors unique to the area.

(d) The district engineer is authorized to approve all notice forms except those on utility bridges, attachments to highway structures, or those which include exceptions as cited in §21.35 of this subchapter.

Source Note: The provisions of this §21.54 adopted to be effective January 1, 1976; amended to be effective May 29, 1989, 14 TexReg 2366; amended to be effective March 15, 2001, 26 TexReg 2055

§21.55 Abandoned Interests

When a utility installation is relocated off its property interests or outside the highway rights-of-way, the abandoned interest or rights of the utility company within the new highway right-of-way should be conveyed to the state.

Source Note: The provisions of this §21.55 adopted to be effective January 1, 1976.

§21.56 Metric Equivalents

All English units of measurement referenced in §§21.31-21.55 of this title (relating to Utility Accommodations) may be converted to metric equivalents as shown in Appendix B.

APPENDIX B

LENGTH

3"	**.076m (Meters)**
6"	**.152 m**
8"	**.203 m**
12" or 1’	**.305 m**
18"	**.457 m**
24" or 2’	**.610 m**
30"	**.762 m**
36" or 3’	**.914 m**
42"	**1.067 m**

48" or 4’	**1.219 m**
50"	**1.270 m**
54"	**1.372 m**
60" or 5’	**1.524 m**
72" or 6’	**1.829 m**
84" or 7’	**2.134 m**
10’	**3.048 m**
16’	**4.877 m**
18’	**5.486 m**
22’	**6.706 m**
30’	**9.144 m**
76’	**23.165 m**
150’	**45.720 m**
300’	**91.440 m**

SPEED

40 mph	**62.372 km/h (Kilometers per hour)**
45 mph	**72.419 km/h**
50 mph	**80.465 km/h**

WEIGHT

175 lbs.	**79.380 kg (Kilograms)**
4 U.S. short tons	**3628.800 kg or 3.6t (Metric Tons)**
16 U.S. short tons	**14515.200 kg or 14.4t**

PRESSURE

60 psi	**414 kPa (Kilopascals**

Source Note: The provisions of this §21.56 adopted to be effective July 9, 1996, 21 TexReg 5980; amended to be effective December 13, 1998, 23 TexReg 12474.